

New Combinations in Chinese *Kobresia* (Cyperaceae)

Zhang Shu-ren

Institute of Botany, Chinese Academy of Sciences, Beijing 100093, China

ABSTRACT. Three new subspecific combinations are proposed in the genus *Kobresia*: *K. myosuroides* (Villars) Fiori subsp. *bistaminata* (W. Z. Di & M. J. Zhong) S. R. Zhang, *K. royleana* (Nees) Boeckeler subsp. *minshanica* (Wang & Tang ex Y. C. Yang) S. R. Zhang, and *K. setschwanensis* Handel-Mazzetti subsp. *squamaeformis* (Y. C. Yang) S. R. Zhang. Additionally, *K. kashgarica* Dickoré is treated as a synonym of *K. myosuroides* subsp. *bistaminata* and *K. menyuanica* Y. C. Yang as a synonym of *K. royleana* subsp. *minshanica*.

In preparing the account of *Kobresia* for the forthcoming volume of *Flora of China*, the following new combinations have been found necessary.

Kobresia myosuroides (Villars) Fiori subsp. ***bistaminata*** (W. Z. Di & M. J. Zhong) S. R. Zhang, comb. nov. Basionym: *Kobresia bistaminata* W. Z. Di & M. J. Zhong, Acta Bot. Bor.-Occid. Sin. 6: 275. 1986. TYPE: China. Nei Mongol: Helanshan, Halawugou, 25 July 1984, EHNWU [Northwest University Expedition to Helanshan] 6051 (holotype, WNU).

Kobresia kashgarica Dickoré, Stapfia, 39: 79. 1995. Syn. nov. TYPE: China. Xinjiang: Kunlun Shan, Tiznap, tributary valley W of Kudi, 36°51'N, 76°57'E, 4040 m, 9 July 1992, G. & S. Miehe 8471 (holotype, K; isotypes, GOET, PE).

Kobresia myosuroides is widespread in the Northern Hemisphere, with a range extending from northern China to the Arctic region. Plants of northwestern China (from western Nei Mongol to western Xinjiang), which were described as *K. bistaminata* and *K. kashgarica* and treated here as the subspecies *bistaminata*, differ from those of the rest of the species range in having slightly smaller (2.5–3.5 mm long) glumes with a narrowly hyaline or not hyaline margin and smaller nuts 1.8–2.3 mm long. In contrast, subspecies *myosuroides* has glumes (2–) 3–4 mm long with a broadly hyaline margin and nuts 2–2.8 mm long.

Kobresia royleana (Nees) Boeckeler subsp. ***minshanica*** (Y. C. Yang) S. R. Zhang, comb. nov. Basionym: *Kobresia minshanica* Wang & Tang ex Y. C. Yang, Acta Biol. Plateau Sin. 2: 1. 1984. TYPE: China. Gansu: Minxian, 10 Aug. 1978, J. Q. Wang 228 (holotype, NWTC).

Kobresia menyuanica Y. C. Yang, Acta Biol. Plateau Sin. 2: 3. 1984. Syn. nov. TYPE: China. Qinghai: Menyuan, 6 Sep. 1980, X. M. Zhou 273 (holotype, HNWP).

Kobresia royleana is distributed in the central Asian highlands and Himalayas. Plants of subspecies *minshanica*, which are restricted to eastern Qinghai and Gansu, are rather slender and often have unisexual lateral spikelets with one female flower, whereas those of subspecies *royleana* are stout and have bisexual lateral spikelets with a basal female flower and several distal male flowers.

Kobresia setschwanensis Handel-Mazzetti subsp. ***squamaeformis*** (Y. C. Yang) S. R. Zhang, comb. nov. Basionym: *Kobresia squamaeformis* Y. C. Yang, Acta Biol. Plateau Sin. 2: 9. 1984, sphalm. “*squamaeformis*.” TYPE: China. Gansu: Xiahe, 3300–3600 m, 14 Aug. 1980, H. T. Zhao s.n. (holotype, LZU).

In the protologue of *Kobresia squamaeformis*, the species was considered similar to *K. pygmaea* C. B. Clarke and *K. bellardii* (Allioni) Degland (= *K. myosuroides*). I have studied the type specimen of *K. squamaeformis* and have seen it in the field in Zeku, Qinghai. It is most closely related to *K. setschwanensis*. Although the taxon is distinguishable from *K. setschwanensis* on the basis of basal sheaths, glumes, prophylls, and nuts, it can be distinguished by being shorter (7–16 cm) and having unbranched inflorescences 8–12 mm long and unisexual or sometimes bisexual lateral spikelets with a basal female flower and a distal male flower. In contrast, *K. setschwanensis* is taller (10–40 cm high) and often has basally branched inflorescences 20–25 mm long and bisexual spikelets with a basal female flower and (1)2–6 distal male flowers. Subspecies *squamaeformis* is distributed in eastern Qinghai and adjacent Gansu, while subspecies *setschwanensis* occurs in southern Qinghai, Sichuan, Yunnan, and Xizang (Tibet).

Acknowledgment. I thank Ihsan Al-Shehbaz for his help with the manuscript.